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ABSTRACT

The study investigated whether a self control strategy training procedure was effective in improving compositions of two 12-year-old learning disabled students. Effects of training on three objective aspects of compositions (number of different action words, action helpers, and describing words) were investigated using a multiple baseline across behaviors nested within a multiple baseline across subjects design. Results indicated that Ss' use of these selected parts of speech increased substantially above baseline, as did mean number of words per story. Additionally, stories written after training received substantially higher quality ratings than those written during baseline. Generalization and maintenance probes taken up to 14 weeks after training yielded positive results. (Author/CL)

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Improving Learning Disabled Students' Composition Skills: A Self-Control Strategy Training Approach

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Abstract

The present study was conducted to determine whether a self-control strategy training procedure was effective in improving learning disabled students' compositions.[1] The effects of training on three objective aspects of compositions (number of different action words, action helpers, and describing words) were investigated using a multiple baseline across behaviors nested within a multiple baseline across subjects design. Results indicated that students' use of these selected parts of speech increased substantially above baseline, as did mean number of words per story. Additionally, stories written after training received substantially higher quality ratings than those written during baseline. Generalization and maintenance probes taken up to 14 weeks after training yielded positive results.

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Writing is an important component of the school curriculum. It is the major medium through which students demonstrate their knowledge and a powerful tool for recording ideas and exploring thought (Graham, 1982). Nevertheless, both anecdotal reports and research conducted primarily with elementary-age students have revealed that learning disabled (LD) students score significantly lower than normally achieving students on a variety of written language measures (Moran, 1981; Morris & Crump, 1982; Myklebust, 1973; Poplin, Gray, Larsen, Banikowski, & Mehring, 1980; Poteet, 1979).

Although writing is a highly complex task requiring the coordination and automatization of a vast array of skills operating at different processing levels (Flower & Hayes, 1980), several investigators have demonstrated that composition skills are amenable to functional analysis and modification. Kraetsch (1982) found that oral instructions and training resulted in an increase in the number of words, sentences, and adjectives written by a 12-year-old LD boy. Neither instructions nor specific training, however, resulted in the use of a single adverb. In a study conducted by Brigham, Graubard, and Stans (1972), the writing productivity of 13 fifth-grade remedial students was increased by sequentially reinforcing specific writing skills. Similarly, Maloney and Hopkins (1973) found that a specific part of speech, once targeted for reinforcement, increased dramatically in fourth, fifth, and sixth-grade students' themes. In each of these investigations, teacher-controlled interventions were used to attempt improvements in writing skills. Teacher-controlled interventions, however, often fail to obtain durable and generalizable effects, and may preclude learning how to learn (Harris, 1982; Sabatino, Miller, & Schmidt, 1981).

Because of the limitations inherent in teacher-controlled interventions and evidence of significant deficits in the production and self-regulation of organized, strategic behaviors among LD students, researchers have provided detailed rationales for the use of cognitive-behavior modification (CBM) procedures with the learning disabled (Harris, 1982; Hallahan, Kneedler, & Lloyd, in press; Meichenbaum, 1976). CBM procedures typically involve teaching students to regulate task-specific and metacognitive strategies through processes such as self-instructions, self-assessment, and self-reinforcement (Harris, 1982). Brown and her colleagues (cf. Brown, Campione, & Day, 1981; Brown and Palincsar, 1982) have suggested that an ideal training package for students with learning problems would include skills training (specific task-appropriate strategies), metacognitive training (instruction in the self-regulation of those strategies), and instruction concerning the significance of such activities. They have labelled this CBM approach self-control training.

Identification of self-regulation procedures is a critical component of self-control training. Research has provided information on the efficacy of four specific procedures. One, students can use self-instructions to effectively prompt, direct, and maintain behavior (Harris, 1982, 1983). Two, self-determined criteria, while not particularly effective alone, can be effectively combined with other self-regulation procedures and might lead to increased maintenance effects (O'Leary & Dubey, 1979). Students may need guidance, however, in initially determining criteria. Three, students can use self-assessment procedures such as self-monitoring, self-recording, or self-evaluation to determine the quantity or quality of their own behavior (O'Leary & Dubey, 1979).

Although self-assessment used alone has produced equivocable results (cf. Hallahan et al., in press, O'Leary & Dubey, 1979; Rosenbaum & Drabman, 1979) the combination of self-assessment with other self-regulation procedures may facilitate maintenance and generalization. Four, self-reinforcement, based on comparison to a criterion, can significantly augment self-assessment and self-determined criteria procedures (O'Leary & Dubey, 1979). Each of these self-regulation procedures should be considered in the design of self-control training regimens.

While CBM techniques, including self-control training, have been used effectively with LD students across a variety of academic and social learning problems (see Hallahan et al., in press and Harris, 1982 for detailed reviews), no CBM interventions for LD students' composition skills have been reported. Indirect evidence suggests that such procedures may be effective. Ballard and Glynn (1975) found that self-assessment had little or no effect on third grade students' compositions, while the combination of self-assessment and self-reinforcement resulted in an increase in the number of sentences, action words, and describing words written. In a study by Hull (1971), self-monitoring and goal-setting were effective in increasing the amount and frequency of journal writing done by college students. Furthermore, professional authors have indicated that they use a variety of self-management procedures to regulate their writing output (Wallace & Pear, 1977).

The purpose of the present study was to determine the effectiveness of a self-control training approach on LD students' composition skills. An intervention combining strategy training, self-regulation training, and instruction on the significance of these activities was developed.

Self-regulation training components included criterion-setting, self-instructions, self-assessment, and self-reinforcement. Strategies and composition skills were taught via a modification of the well-validated strategy acquisition steps developed for adolescents by researchers at the University of Kansas Institute for Research in Learning Disabilities (cf. Schumaker, Deshler, Alhey, & Warner, 1983). Three operationally defined composition variables which have been shown to be related to judgements on writing quality were chosen for training and analysis. The three variables were number of different action words, action helpers, and describing words (Ballard & Glynn, 1975; Grobe, 1981; Maloney & Hopkins, 1973; Steward & Grobe, 1979). It was expected that training would increase the number of these words in students' compositions, increase the length of their compositions, and result in higher quality ratings. Generalization and maintenance of treatment effects were also examined.

Method

Subjects and Setting

The study was conducted at a northeastern suburban elementary school. Two LD students (Rachel and Jim) receiving resource room services served as subjects. Rachel and Jim's ages were 12-10 and 12-7, respectively. Subjects were selected on the basis of the following criteria: identification as LD by the school district, IQ scores between 85-115 on both the Slosson Intelligence Test and the Peabody Picture Vocabulary Test, achievement at least two years below grade/age level in two or more academic areas, absence of any other handicapping conditions, and interviews with the resource room teacher which indicated that composition problems were evident. The Test of Written Language (TOWL) was administered to both

subjects. Rachel's grade equivalent scores on the TOWL were 7.3 on vocabulary, 3.4 on thematic maturity, 2.5 on word usage, and 2.4 on style. Jim's grade equivalent scores on the TOWL were 2.7 on vocabulary, 8.9 on thematic maturity, 7.9 on word usage, and less than 2.0 on style.

General Procedures

Two senior level undergraduate students majoring in special education served as instructors; each was assigned to one subject for the duration of the experiment. Both instructors received considerable training and practice in the application of the experimental procedures. Detailed lesson plans containing a step-by-step description of the instructional procedures were provided in a notebook and each step of the daily lesson plan was checked off as it was completed. Before instruction began, forty suitable black-and-white pictures selected from commercial writing programs and magazines were mounted on white poster board paper. Pictures were then randomly ordered and preassigned for each day of the program.

Two to three days a week, each subject met with her/his instructor in a quiet room at the school for approximately 45 minutes. When the subject's assignment during these meetings was to write a story in response to the preassigned picture, the following instruction was given:

> "Look at this picture and write a story to go with it. Use everything that you have learned about writing stories to help you. Please remember that I cannot help you write the story. However, if you do not know how to spell a word, I will write it out for you."

At no time did the instructor provide feedback on the quality of a story.

Instructional Procedures

Guidelines for designing and implementing CBM procedures provided by Harris (1982) and Meichenbaum (1983) were consulted in constructing the instructional procedures. Learner and task analyses were carefully conducted and training components aimed at enhancing generalization and maintenance were identified. The resulting task-specific and metacognitive strategies were taught via a set of instructional steps. The instructional steps were adapted from those outlined by researchers at the University of Kansas Institute for Research in Learning Disabilities (cf. Schumaker et al., 1983) and from Meichenbaum's (1977) self-instructional training procedures. The instructional steps and training components were:

Step 1: Introduce Task-Specific Strategy

In this step, one of the targeted composition skills (action words, action helpers, or describing words) was introduced and its meaning mastered through various activities. The skill was first introduced on a small chart which provided a definition and examples. After discussion, the student provided further examples independently, provided examples appropriate for a stimulus picture, and used three examples in sentences.

Step 2: Review Current Performance Level

Next, the instructor and the student examined the student's baseline performance on the composition skill targeted for instruction (e.g., action words). The number of different action words used in each baseline story was depicted on a graph. The instructor and student then discussed the goal of training (to write better stories), why this was important, and how action words improved a story.

Step 3: Describe the Learning Strategy

In this step, a five step strategy for writing good stories was introduced on a small chart. The five steps were: 1) Look at the picture and write down good action words. 2) Think of a good story idea to use my words in. 3) Write my story - make sense and use good action words.

4) Read my story and ask - did I write a good story? Did I use good action words? 5) Fix my story - can I use more good action words? After discussing the five step strategy, the instructor modeled several creativity self-statements helpful to her in thinking of good words (i.e., "Let my mind be free . . . think of new words for old ideas.") The student was then asked to make up 2-3 creativity self-statements he/she would like to use; these were recorded on paper. The student practiced using these self-statements, generating several more action words for the stimulus picture.

Step 4: Model the Strategy and Self-Instructions

The two charts and list of creativity self-statements noted above and a new stimulus picture were set out. The instructor modeled the learning strategy, writing an actual story and "thinking aloud." In addition to the creativity self-statements, the instructor modeled four types of self-instructions as she wrote: problem definition (e.g., What is it I have to do? I have to write a good story. Good stories make sense and use many action words), planning (including the five strategy steps), self-evaluation, and self-reinforcement. After completing the story, the instructor discussed with the student the importance of the things we say to ourselves while we work. The student was asked to identify self-instructions the instructor used to get started, to help write the story, and to evaluate the story. The student then recorded on paper examples of each of the four types of self-instructions, in her/his own words.

Step 5: Mastery of Strategy Steps

In this step, the student was required to memorize the five step strategy for writing good stories. Once the student had memorized the five steps, paraphrasing was allowed as long as the meaning remained intact. Examples of each type of self-instruction were also memorized.

Step 6: Controlled Practice of Strategy Steps and Self-Instructions

In this step, criterion-setting was introduced. The instructor and student determined the average number of action words written in baseline and the student set an initial goal. The student then practiced the learning strategy and self-instructions, "thinking aloud" as he/she wrote a story in response to a new stimulus picture. Positive and corrective feedback was provided as needed. The two charts and self-instructions list were initially available as prompts if necessary,

then faded. This step was repeated, using new stimulus pictures, until the student became proficient in the use of the strategy and the overt self-instructions. Transition to covert self-instructions was then encouraged. After each practice story was completed, the student and instructor independently counted the number of different action words, compared counts, graphed the number on the student's chart, and compared performance to the criterion. As the students improved in their use of action words, the goal became "to do as well as or better than I have been doing."

Step 7: Training Data Collection

In this step, data was collected on the student's performance. General procedures for story collection were in effect; the student wrote a story in response to a novel stimulus picture, without instructions or feedback. After the student completed a story, the student and instructor independently counted the number of different action words, compared counts, and filled in the graph. Only one story was collected per session.

Generalization and Maintenance Components

In addition to the criterion setting and self-assessment components, other recommended procedures for generalization and maintenance were included (cf. Harris, 1982). Each student kept a notebook with copies of all training materials, each of their stories, and their graph. They were asked to share what they were learning with their resource teacher and their parents, and the resource teacher was asked to initial the graph each time a student discussed training. Teacher initials were checked during each training session. In addition, students were told to think of what they were learning while in their resource room, and to be prepared to use what they had learned during resource room activities.

Action words were defined for the students as "words that tell what people, things, or animals do. They are doing words." Action helpers were defined as "words that go along with action words. They help tell more about the action. They tell how the action is done." Describing words were "words that tell more about people, animals, places, or things. They help to paint a picture. They may tell about: color, shape, how many, size, feelings, smells, sounds, taste, and so on."

When the student completed the seven instructional steps for action words, instruction began again at step one for action helpers. Describing words were taught last. Once the instructional steps were completed for a specific skill (e.g., action words), that skill was neither discussed, counted, nor graphed with the student again. Thus, maintenance of previously taught skills could be monitored as data were collected for a new skill.

Data Collection

Before the experiment began, both instructors received training and guided practice in scoring the four objective response measures: number of different action words, action helpers, and describing words, and total number of words. Subjective quality ratings were obtained independently at the conclusion of the study.

Objective measures. Operational definitions similar to those used in studies by Ballard and Glynn (1975) and Maloney and Hopkins (1973) were developed for the response measures. Action words were defined as words that express either a physical or mental act, occurrence, or movement. This did not include verbs that represent a state of being, including any form of the verb "to be". Different tenses of the same verb were not counted as a separate response. An action helper was defined as a word that modifies a verb and expresses how something is done. Adverbs that tell when, where, why, and to what extent or that modify an adjective, another adverb, prepositional phrase or clause were not counted. Describing words were adjectives that modify nouns and denote the quality or the quantity of the thing named. Adjectives which specify a noun as distinct from something else (e.g., this) were not included. Total number

of words was defined as the number of written words, regardless of misspellings, which represented a spoken word.

Reliability. At the conclusion of the study, 11 stories (25% of the compositions written) were randomly selected. All identifying information was removed and a graduate student unfamiliar with the purpose and design of the study was trained to score the objectives measures. Percentage of agreement between an instructor and the graduate student was calculated by dividing the number of agreements by the number of agreements plus disagreements and then multiplying by 100. Percent agreement for number of different action words ranged from 83% to 100% ($\bar{x}$=92%). Percent agreement for number of different action helpers ranged from 80% to 100% ($\bar{x}$=95%). For number of different describing words, percent agreement ranged from 80% to 100% ($\bar{x}$=92%). Pearson product-moment reliability coefficients were .93, .99, and .99 for action words, action helpers, and describing words, respectively. Percent agreement for number of words ranged from 96% to 100% ($\bar{x}$=99%). The reliability coefficient was .99.

Quality ratings. Stories written on the last two days of baseline and the last two days of each training phase were evaluated in terms of quality. All identifying information was removed, spelling errors were corrected, and the 16 stories were typewritten to control for possible confounding effects (Graham, 1982; Graham & Miller, 1980). Two undergraduate students unfamiliar with the purpose and design of the study independently evaluated the stories. They were given the following instruction:

There are two sets of eight stories. Each set was written by a sixth grade student. Please give each story a qualitative rating using a one to eight point scale. A score of eight indicates a high rating and a score of one a low rating. Be sure to read each paper to get an overall impression. Your rating should be based on originality and ideation. The stories are not in any order so you may handle them as you wish.

Interrater reliability. Of the 16 stories selected for subjective evaluation, five received the same rating from both examiners, seven differed by one point on the scale, and four stories differed by more than one point. The reliability coefficients for the stories written by Rachel and Jim were .92 and .83, respectively.

Accuracy of Students' Self-Assessments

Accuracy of a student's self-assessment on the number of different action words, action helpers, and describing words was determined by obtaining a Pearson product-moment correlation between the instructor's and student's original scores on a particular response measure. Both students were able to accurately score their own compositions. The correlation coefficients for Rachel's scores and her instructor's scores were .96, .99, and .98 on number of different action words, action helpers, describing words, respectively. The correlation coefficients for the scores produced by Jim and his instructor were .96 on action words, .99 on action helpers, and .99 on describing words.

Experimental Design

Studies by Ballard and Glynn (1975) and Maloney and Hopkins (1973) indicated that the selected response variables were independent. Consequently, a multiple baseline across behaviors nested within a multiple baseline across subjects design was employed. Training was initiated after four baseline sessions for Rachel and after six baseline sessions for Jim. Once instruction and training data collection were concluded for the first response variable (action words), instruction on the second response variable (action helpers) was initiated if the subject's baseline had remained stable. Similarly, if baseline remained stable, instruction on describing words was initiated after the second phase was completed. Novel stimulus pictures were used in each session across all phases.

Baseline. During baseline conditions, pretreatment response rates on the selected response variables were established. General procedures were in effect.

Training. After a student completed the first six instructional steps for a response variable, step seven under Instructional Procedures (Training Data Collection) was initiated. At this point instruction was terminated and the student independently wrote a story in response to a novel stimulus picture. Four stories were collected in this manner following the procedures described under step seven.

Posttreatment. Since each story written throughout the study could be scored for all three response measures, posttreatment data was available for both action words and action helpers following the termination of their respective treatment programs. Posttreatment data provided an index of

maintenance for these two measures. Thus, if a previously trained skill was not maintained, booster sessions could be incorporated. Posttreatment data was not available for describing words as students had completed the program and were not asked to write further stories until the follow-up probes were collected.

Follow-up probes. Two weeks and fourteen weeks after the training sessions were terminated, follow-up probes were collected to determine maintenance of training effects. Follow-up sessions were identical to baseline conditions. However, the 14-week probe was collected at the beginning of the next school year; both students were then enrolled in seventh-grade at junior high schools. Thus, the 14-week probe provided a measure of both maintenance and generalization.

Generalization probes. The subject's resource room teacher collected a probe during the latter part of each of the training phases. Procedures for collecting these probes were identical to baseline conditions except that the stories were written in the resource room.

Results

Figure 1 presents each subject's results for number of different action words, action helpers, and describing words. The top three graphs indicate Rachel's performance, while the bottom three graphs illustrate Jim's performance. As can be seen, stable baselines were established and the three behaviors were independent.

Insert Figure 1 about here

Objective Measures

Both subjects evidenced low to moderate levels of performance during baseline. Rachel's mean baseline response rate on number of different action words, action helpers, and describing words was 8.75, 0.0, and 4.75, respectively. The sequential introduction of the instructional procedure resulted in mean response rates of 16.75, 11.0, and 17.5 for action words, action helpers, and describing words, respectively. Similarly, Jim's mean baseline response rate for number of different action words, action helpers, and describing words was 9.5, 0.0, and 4.85, respectively. His mean performance increased to 19.25, 9.5, and 16.75 on action words, action helpers, and describing words, respectively. Thus, the sequential application of the self-control instructional procedure was effective in increasing the rates of these three response variables.

For each phase of the study, mean number of words was calculated by dividing the total number of words written by the number of stories. During baseline, Rachel and Jim's mean output per story was 108 and 98 words, respectively. However, Rachel averaged 146 words per story and Jim averaged 138 words per story during the first training phase. These increases were maintained well above baseline level by both subjects during the succeeding phases.

Quality Ratings

A mean quality rating was calculated for each phase of the study by averaging the subject's mean score for the two stories selected for evaluation from that phase. The subject's mean score on a story was obtained by averaging the independent ratings of the two undergraduate examiners. Training procedures were clearly related to improvements in the quality

of compositions. Stories written after training were rated substantially higher than those written in baseline conditions. Rachel and Jim's mean quality rating in baseline were 2.5 and 3.0, respectively. During the first training phase, mean quality ratings increased to 6.25 for Rachel and 7.0 for Jim. These gains were maintained in the second treatment phase, but showed a slight decline to 4.5 for Rachel and 5.0 for Jim during the third treatment phase.

Generalization and Maintenance

Generalization was assessed by analyzing each subject's performance on the stories written in response to novel stimulus pictures in the resource room. Results were similar for both subjects and show that treatment effects did generalize to the resource room setting (See Table 1). With regard to action words, scores on the three generalization probes were equivalent to training and posttreatment data and higher than baseline scores. For both action helpers and describing words, the generalization probes taken during training yielded substantially higher scores than the baseline generalization probes (see Table 1). Additionally, performance on a particular response variable improved only when the corresponding training procedures were in effect.

Maintenance was initially assessed by examining the posttreatment data for action words and action helpers and the first follow-up probe, collected two weeks after training sessions were terminated. The posttreatment phases for action words and action helpers were four weeks and two weeks in length, respectively. Thus, maintenance data was available for action words over a total period of six weeks, for action helpers over a period of four weeks, and for describing words over a

period of two weeks. Maintenance was evidenced for both subjects on action words and action helpers during the posttreatment phases. In addition, treatment effects were maintained on all three variables two weeks after all training sessions were terminated.

As noted previously, the first follow-up probe was collected near the end of the school year and the second follow-up probe was collected at the beginning of the following school year (14 weeks after training sessions were terminated). Both subjects were then attending seventh-grade at local junior high schools. Thus, the second follow-up probe provided a measure of both transfer and maintenance. Results provided by this probe were mixed. Maintenance effects were found on one variable for both subjects; describing words for Rachel and action helpers for Jim (see Table 1). However, after the stories had been collected, both subjects spontaneously reiterated the five steps for writing good stories and the three types of words found in good stories, which they had been taught in training. Therefore, knowledge of the strategies maintained and generalized although implementation was inconsistent.

Discussion

The results of this study support the hypothesis that a self-control strategy training approach can be used to teach composition skills to learning disabled students, and that such training improves the quality of their compositions. Intervention procedures included skills training (instruction on specific task-appropriate strategies), metacognitive training (instruction in the self-regulation of those strategies), and instruction concerning the significance of such activities (cf. Brown & Palincsar, 1982). Training resulted in sequential increases substantially

above baseline in the number of different action words, action helpers, and describing words, and an increase in the mean number of words written per story. Stories written after each phase of training received substantially higher quality ratings than those written in baseline. In addition, this study demonstrated that the strategy acquisition steps validated for LD adolescents by researchers at the University of Kansas Institute for Research in Learning Disabilities (cf. Schumaker et al., 1983) can be successfully modified for use with elementary LD students.

CBM training approaches, including self-control training regimens, have been noted as particularly promising for achieving generalization and maintenance of training effects (Harris, 1982; Meichenbaum, 1983). Guidelines and training components recommended for obtaining generalization and maintenance (cf. Harris, 1982; Meichenbaum, 1983) were carefully reviewed and incorporated in the present study. Overall, the results were positive. Generalization and maintenance (up to six weeks) were obtained within the elementary school setting. However, the results of a follow-up probe collected in the students' new junior high school placements 3 1/2 months after training was terminated were mixed. Long-term maintenance and transfer were found for one out of the three composition variables. However, after the follow-up story had been collected, both students spontaneously reiterated the five steps for writing good stories and the three types of words found in good stories. Thus, knowledge of the task strategies was maintained over time and across settings, although implementation of the strategies was inconsistent. It appears reasonable to expect that a booster session, as suggested by Meichenbaum (1983), would have returned performance rates to their initial posttreatment level.

Unfortunately, it was not possible to continue the study in the students' new placements.

It should be noted that a slight drop in quality ratings occurred for both students after training on the use of describing words. Discussions with the raters after quality ratings were completed indicated that students were over-using describing words to some extent. Greater emphasis on reasonable word usage might be incorporated in future training regimens.

Qualitative indices of treatment effects were also noted throughout the study. At various points during the study both students expressed satisfaction with the use of self-instructions and reported spontaneously implementing self-instructions (i.e., take my time and think carefully) on various tasks in the resource and regular classrooms. The two students also responded favorably to the self-assessment and criterion setting procedures, particularly the use of a graph. The trainers noted that high levels of interest and motivation persisted throughout the training phases, which took place over a 3 1/2 month time period. Finally, O'Leary and Dubey (1979) noted that the use of self-determined criteria (goal setting) procedures may prompt students to evaluate their behavior in relation to the goals set and thus to provide covert or overt consequences for achievement. Indications that goal setting can elicit self-reinforcement or self-punishment were noted in the present study. Both subjects made spontaneous comments to their instructors such as, "I met my goal, my story was good," or, "I didn't make the goal, my story was bad." The effect of self-determined criteria on behavior may be partially due to such prompting of self-evaluation.

In conclusion, the present study has demonstrated the efficacy of a self-control strategy training approach in improving and maintaining compositions skills among LD children. Future investigations should expand the scope of such training to include other pertinent composition skills.

References

Ballard, K., & Glynn, T. (1975). Behavioral self-management in story writing with elementary school children. Journal of Applied Behavior Analysis, 8, 387-389.

Brigham, T., Graubard, P., & Stans, A. (1972). Analysis of the effects of sequential reinforcement contingencies on aspects of compositions. Journal of Applied Behavior Analysis, 5, 421-429.

Brown, A.L., Campione, J.C., & Day, J.D. (1981). Learning to learn: On training students to learn from texts. Educational Researcher, 10, 14-21.

Brown, A.L., & Palincsar, A.S. (1982). Inducing strategic learning from texts by means of informed, self-control training. Topics in Learning and Learning Disabilities, 2, 1-17.

Flower, L., & Hayes, J. (1980). The dynamics of composing: Making plans and juggling constraints. In L. Gregg & E. Steinberg (Eds.), Cognitive processes in writing. Hillsdale: Lawrence Erlbaum Associates.

Graham, S. (1982). Composition research and practice: A unified approach. Focus on Exceptional Children, 14, 1-16.

Graham, S., & Miller, L. (1980). Handwritting research and practice: A unified approach. Focus on Exceptional Children, 13, 1-16.

Grobe, C. (1981). Syntactic maturity, mechanics, and vocabulary as predictors of quality ratings. Research in the Teaching of English, 15, 75-85.

Hallahan, D.P., Kneedler, R.D., & Lloyd, J.W., (in press). Cognitive behavior modification techniques for learning disabled children: Self-instruction and self-monitoring. In J.D. McKinney & L. Feagans (Eds.), Current topics in learning disabilities (Vol. 1). New York: Ablex Publishing.

Harris, K.R. (1982). Cognitive behavior modification: Application with exceptional students. Focus on Exceptional Children, 15, 1-16.

Harris, K.R. (1983). The effects of cognitive-behavior modification on private speech and task performance during problem solving among learning disabled and normally achieving children. Manuscript submitted for publication.

Hull, G. (1981). Effects of self-management strategies on journal writing by college freshman. Research in the Teaching of English, 15, 135-148.

Kraetsch, G. (1981). The effects of oral instructions and training on the expansion of written language. Learning Disability Quarterly, 4, 82-90.

Maloney, K., & Hopkins, B. (1973). The modification of sentence structure and its relationship to subjective judgements of creativity in writing. Journal of Applied Behavior Analysis, 6, 425-433.

Meichenbaum, D. (1976). Cognitive factors as determinants of learning disabilities: A cognitive-functional approach. In R. Knights & D. Bakker (Eds.), The neuropsychology of learning disorders: Theoretical approaches. Baltimore: University Park Press.

Meichenbaum, D. (1977). Cognitive behavior modification: An integrative approach. New York: Plenum Press.

Meichenbaum, D. (1983). Teaching thinking: A cognitive-behavioral approach. In, Interdisciplinary voices in learning disabilities and remedial education. Austin, TX: Pro-Ed.

Moran, M. (1981). A comparison of formal features of written language of learning disabled, low-achieving and achieving secondary students. Research Report No. 34. Lawrence, KS: Kansas Institute for Research in Learning Disabilities.

Morris, N., & Crump, D. (1982). Syntactic and vocabulary development in the written language of learning disabled and non-learning disabled students at four age levels. Learning Disability Quarterly, 5, 163-172.

Myklebust, H. (1973). Development and disorders of written language, Vol. 2: Studies of normal and exceptional children. New York: Grune & Stratton.

O'Leary, S.G., & Dubey, D.R. (1979). Applications of self-control procedures by children: A review. Journal of Applied Behavior Analysis, 12, 449-465.

Poplin, M., Gray, R., Larsen, S., Banikowski, A., & Mehring, T. (1980). A comparison of components of written expression abilities in learning disabled and non-learning disabled students at three grade levels. Learning Disability Quarterly, 3, 46-53.

Poteet, J. (1979). Characteristics of written expression of learning disabled and non-learning disabled elementary school students. Diagnostique, 4, 60-74.

Rosenbaum, M.S., & Drabman, R.S. (1979). Self-control training in the classroom: A review and critique. Journal of Applied Behavior Analysis, 12, 467-485.

Sabatino, D.A., Miller, P.F., & Schmidt, C. (1981). Can intelligence be altered through cognitive training? Journal of Special Education, 15, 125-144.

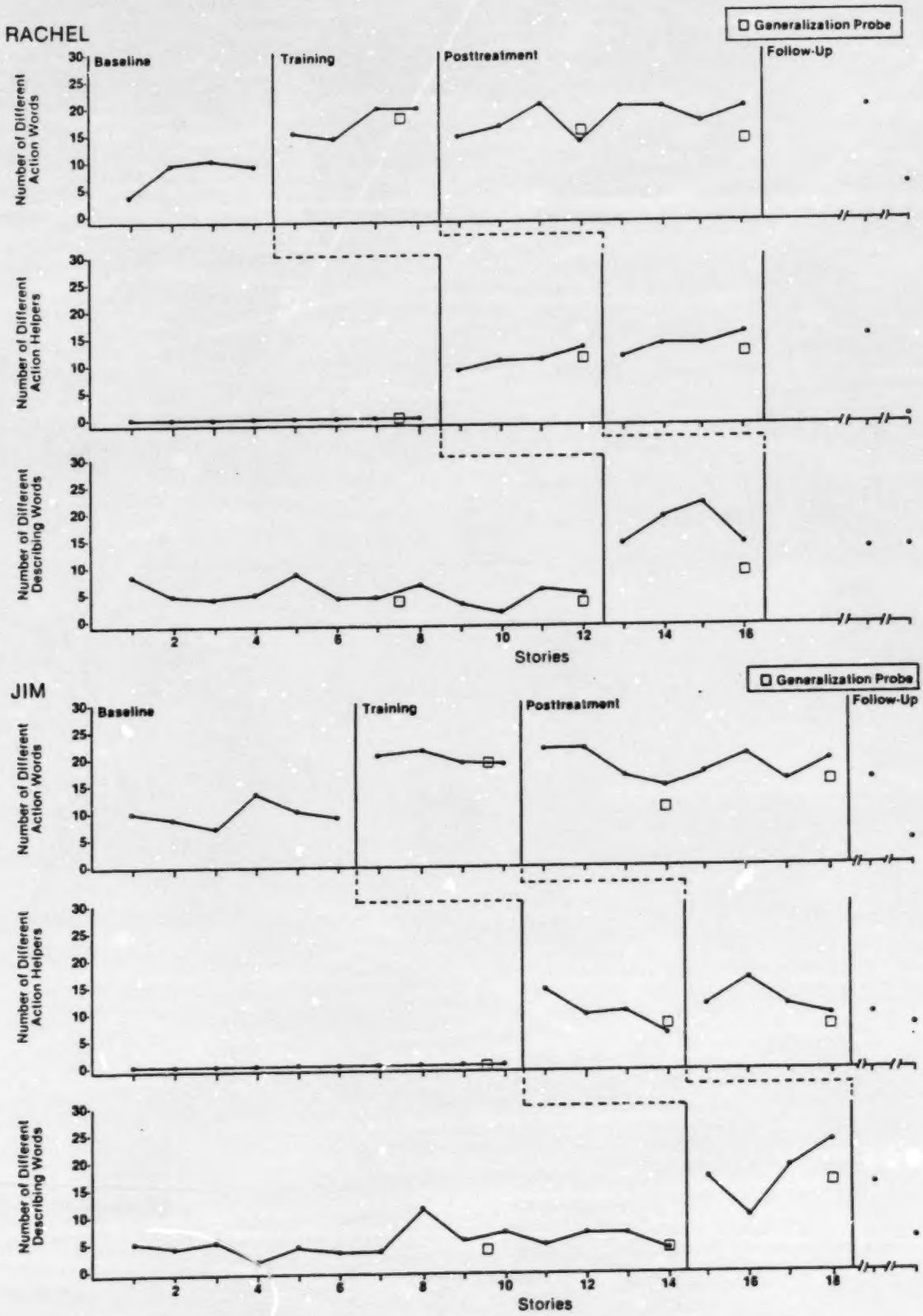
Schumaker, J.B., Deshler, D.D., Alley, G.R., Warner, M.M., & Denton, P.H. (1982) Multipass: A learning strategy for improving reading comprehension. Learning Disability Quarterly, 5, 295-304.

Steward, M., & Grobe, C. (1979). Syntactic maturity, mechanics of writing and teachers' quality ratings. Research in the Teaching of English, 13, 207-215.

Wallace, I., & Pear, J. (1977). Self-control techniques of famous novelists. Journal of Applied Behavior Analysis, 10, 515-525.

Figure 1:

Subjects' Scores On Dependent Measures


RACHEL
Generalization Probe
Baseline
Training
Posttreatment
Follow-Up
Number of Different Action Words
Number of Different Action Helpers
Number of Different Describing Words
Stories
JIM
Generalization Probe
Baseline
Training
Posttreatment
Follow-Up
Number of Different Action Words
Number of Different Action Helpers
Number of Different Describing Words
Stories